

Attorney's Docket: 2002DE415
Serial No.: 10/409,498
Art Unit 1625
Response to Office Action of June 28, 2004

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (original) A method of hydrodechlorinating nuclear-chlorinated o-xlenes and recovering o-xylene with formation of hydrogen chloride, which comprises hydrogenating hydrodechlorinating the nuclear-chlorinated o-xlenes in the gas phase at a noble-metal-containing catalyst at a temperature in the range from 220 to 360°C to provide o-xylene and hydrogen chloride, and recovering the o-xylene.
2. (Previously Presented) The method as claimed in claim 1, wherein the catalyst comprises palladium or platinum.
3. (Previously Presented) The method as claimed in claim 1, wherein the support for the noble metal is oxidic materials.
4. (Previously Presented) The method as claimed in claim 1, wherein the amount of hydrogen fed is at least the equimolar equivalent of the molar content in the starting material.
5. (Previously Presented) The method as claimed in claim 1, wherein the nuclear-chlorinated o-xlenes are used individually or as mixtures.
6. (Previously Presented) The method as claimed in claim 1, wherein the hydrogenation reaction is carried out at atmospheric pressure.
7. (Previously Presented) The method as claimed in claim 2, wherein the catalyst comprises a supported palladium or platinum.
8. (Previously Presented) The method as claimed in claim 3, wherein the support for the noble metal is: aluminum oxide; silicon oxide; or carbon.

Attorney's Docket: 2002DE415
Serial No.: 10/409,498
Ad Unit 1625
Response to Office Action of June 28, 2004

9. (Previously Presented) The method as claimed in claim 3, wherein the amount of hydrogen fed is at least the equimolar equivalent of the molar content in the starting material.
10. (Previously Presented) The method as claimed in claim 3, wherein the nuclear-chlorinated o-xlenes are used individually or as mixtures.
11. (Previously Presented) The method as claimed in claim 3, wherein the hydrogenation reaction is carried out at atmospheric pressure.
12. (Previously Presented) The method as claimed claim 8, wherein the support for the noble metal is carbon.
13. (Previously Presented) The method as claimed in claim 4, wherein the nuclear-chlorinated o-xlenes are used individually or as mixtures.
14. (Previously Presented) The method as claimed in claim 4, wherein the hydrogenation reaction is carried out at atmospheric pressure.
15. (Previously Presented) The method as claimed in claim 8, wherein the nuclear-chlorinated o-xlenes are used individually or as mixtures.
16. (Previously Presented) The method as claimed in claim 5, wherein the hydrogenation reaction is carried out at atmospheric pressure.

Attorney's Docket: 2002DE415
Serial No.: 10/409,498
Art Unit 1826
Response to Office Action of June 28, 2004

17.(New) A method for the dehydrochlorination of mixed nuclear-chlorinated o-xlenes, said method comprising:

a) passing a gas stream comprising hydrogen and the mixed nuclear chlorinated o-xlenes, to a single reaction zone and therein contacting a noble metal catalyst at a temperature in the range from 220 to 360°C to dehydrochlorinate the mixed nuclear chlorinated o-xlenes and to provide a reactor effluent comprising o-xylene and hydrogen chloride, and

b) recovering the o-xylene from the reactor effluent,

wherein said mixed nuclear chlorinated o-xlenes are selected from the group consisting of nuclear monochlorinated o-xlenes, nuclear polychlorinated o-xlenes and mixtures thereof, and wherein the noble metal catalyst is selected from the group consisting of palladium, platinum, and mixtures thereof .